

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 29 DEC 2005

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| Applicant's or agent's file reference E-2437/04 | FOR FURTHER ACTION | | See Form PCT/PEA/416 |
| International application No. PCT/EP2004/052559 | International filing date (day/month/year) 15.10.2004 | Priority date (day/month/year) 17.10.2003 | |
| International Patent Classification (IPC) or national classification and IPC F16G1/28, B29D29/08, B29C67/24, C08L15/00, C08L27/18 | | | |
| Applicant DAYCO EUROPE S.R.L. CON UNICO SOCIO | | | |

1. This report is the International preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☐ sent to the applicant and to the International Bureau a total of sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

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| Date of submission of the demand 17.08.2005 | Date of completion of this report 29.12.2005 |
| Name and mailing address of the International preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016 | Authorized Officer Van Nieuwenhuize, O Telephone No. +31 70 340-3435 |



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2004/052559

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☒ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-10 as originally filed

Claims, Numbers

1-7 as originally filed

Drawings, Sheets

1/1 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|-----|
| -Novelty (N) | Yes: Claims | 1-7 |
| | No: Claims | |
| Inventive step (IS) | Yes: Claims | 1-7 |
| | No: Claims | |
| Industrial applicability (IA) | Yes: Claims | 1-7 |
| | No: Claims | |

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rule 70.10)

and /or

2. Non-written disclosures (Rule 70.9)

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: EP-A-1052425

D2: EP-A-1157813

2. The following is stated under reference to Item VIII of this opinion.

2.1 Closest prior art, cf. document D2, cf. claims 1 and 2, is a toothed belt comprising a body (2) and a plurality of teeth (4), said teeth being coated with a fabric (5), said fabric being coated on the outside with a resistant layer (8), said resistant layer comprising a fluorinated plastomer, an elastomeric material and a vulcanizing agent, said fluorinated plastomer being present in said resistant layer in an amount higher than that of said elastomeric material, whereby said fluorinated plastomer is formed by particles of average size and said resistant layer is made to adhere directly to said fabric.

The subject-matter of claim 1 differs therefrom in that said average size is smaller than 10 μm .

Therefore the subject-matter of claim 1 for as far as can be understood is novel and claim 1 meets the requirements of Article 33(2) PCT.

The problem underlying claim 1 is to improve the abrasion resistance and the mechanical characteristics, cf. page 8, lines 23 - 27.

Although the feature of fluorinated plastomer particles of average size smaller than 10 μm (0.25 μm) as such is known from D2, cf. example C5, whereby said fluorinated plastomer (41) being present in said resistant layer in an amount higher (200 phr)

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(SEPARATE SHEET)**

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than that of a material being coated on the outside of a fabric (24) of a toothed belt comprising a body (32) and a plurality of teeth (18), the skilled man is not hinted at combining the teachings of documents D1 and D2 in such a way, that the abrasion resistance and the mechanical characteristics of the belt of D1 are improved due to the fact that D2 discloses the additivation of RFL adhesive not designed for providing wear resistance in the sense of the present application and furthermore also being present between fabric and body or teeth.

Therefore the subject-matter of claim 1 for as far as can be understood also involves an inventive step in the sense of Article 33(3) PCT.

2.2 Consequently independent claim 7 is novel and inventive too.

3. Claims 2 - 6 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

4. Claims 1 - 7 meet the requirements of Article 33(4) PCT.

Re Item VI

Certain documents cited

Certain published documents

| Application No Patent No | Publication date (day/month/year) | Filing date (day/month/year) | Priority date (valid claim) (day/month/year) |
|-----------------------------|--------------------------------------|---------------------------------|---|
| EP-A-1396658 | 10.03.2004 | 07.09.2002 | 07.09.2002 |

Re Item VII

Certain defects in the international application

1. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in document D1 is not mentioned in the description, nor is this document identified therein.

Re Item VIII

Certain observations on the international application

In respect of the requirements of Article 6 PCT the following is observed.

1. The feature "a vulcanizing agent", cf. claim 1, appears to be a raw material feature rather than a resistant layer feature. After vulcanization parts of the vulcanization agent molecules could have become part of other molecules (polymer chains), whereas other parts (for instance remnants of peroxides) may still be separately present. It therefore doubtful whether the feature " a vulcanizing agent" is a feature of the heat resistant layer, thereby causing formally a lack of clarity of the subject-matter of claim 1, see also the PCT-Guidelines, 5.26.
- 2.1 The expression "mainly by particles of average size" as used in claim 1, lines 10 and 11 causes a lack of clarity of the subject-matter of claims 1 and 7, because the word mainly cannot be correctly interpreted in terms of quantified mass, volume or other numbers (does it for instance imply more than 50 weight percent or more than 50 vol.-% or more than 50%, 60%, 70%, etc) and because of the fact that the sequence of "mainly average size" or "50% having an average size" cannot teach any average size, cf. the PCT-Guidelines, 5.20 and 5.38. Basis for amendment can be found on page 6, last paragraph and example 3.
- 2.2 Similar accounts for the expression "an amount higher", cf. page 11, line 9, for which a basis for amendment is contained by claim 5.

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3. In its wording claim 1 is restricted to the feature "fabric (5) being coated on the outside with a resistant layer (8)". In the light of the description, cf. page 9, lines 7 - 10, it is to be remarked, that the wording of this feature of claim 1 has been interpreted as "fabric (5) being coated on the outside with a resistant layer (8) of uniform thickness by spreading", thereby indicating the presence of a continuous layer and of an interface constituted by teeth elastomer (4) and fabric (5) without intermediate wear resistant layer. For meeting the requirements of Article 6 PCT reference is made to PCT-Guideline A5.20.
4. The preamble of two-part form of claim 7 formally implies, that the combination of features of claim 1 is known from the prior art, cf. Rule 6.3(b)(i). Since the characterizing feature has no corresponding product feature in independent claim 1 the claims do not meet Article 6 PCT for the reasons as brought forward in PCT-Guidelines 5.15 and 5.33, see also page 8, line 5.